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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,052	10/31/2003	Paul Geoffrey Brown	ARC920030044US1	8380

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EXAMINER	
COUGHLAN, PETER D	

ART UNIT	PAPER NUMBER
2129	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,052	BROWN ET AL.	
	Examiner	Art Unit	
	Peter Coughlan	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-15,19 and 21* is/are allowed.

6)☒ Claim(s) *1-10,16-18,20 and 22-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/6/04 & 4/2/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. Claims 1-38 are pending in this application.

35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-38 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application. A method that solely locates hidden algebraic constrains has no real world application. What need or purpose does such knowledge benefit the user?

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to

the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101.

The algorithm that sets the rules of finding hidden algebraic constraints has no function or fulfills no purpose in the real world.

The invention must be for a practical application and either:

1) specify transforming (physical thing) or

2) have the FINAL RESULT (not the steps) achieve or produce a

useful (specific, substantial, AND credible),

concrete (substantially repeatable/ non-unpredictable), AND

tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended, and if the specification discloses a practical application but the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended.

Claims that describe a method or algorithm for finding algebraic constraints within a database are not statutory.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 16, 18, 20, 22-31, 34-38 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Hellerstein**) being anticipated by Hellerstein, 'Interactive data analysis: The control Project")

Claim 1.

Hellerstein anticipates (a) constructing one or more candidates of form C=(a.sub.1, a.sub.2, P, .sym.), wherein a.sub.1 and a.sub.2 are numerical attributes associated with column values of data in said database, P is a pairing rule, and .sym. is any of the following algebraic operators: +, -, .times., or / (**Hellerstein,** p55, C2:22-49; Constructing or identifying candidates among multiple databases of applicant is equivalent to 'join' of Hellerstein.); (b) constructing, for each candidate identified in (a), an algebraic constraint AC=(a.sub.1, a.sub.2, P, .sym., I.sub.1, . . . , I.sub.k) by applying any of, or a combination of the following techniques to a sample of column values: statistical histogramming, segmentation, or clustering, where I.sub.1, . . . , I.sub.k is a set of disjoint intervals and k.gtoreq.1 (**Hellerstein,** p53, C1:4 through C2:7; Hellerstein illustrates a set of disjoint intervals with clustering.), and wherein said constructed algebraic constraints are used in query optimization. (**Hellerstein,** p52, C1:34-47)

Claim 2.

Hellerstein anticipates one or more pruning rules are used to limit said number of constructed candidates. (**Hellerstein,** p55, C1:4-20, p52 C2:35 through p53, p57, C2:6-25, p56, C1:23-27; These are all examples of pruning rules.)

Claim 3.

Hellerstein anticipates pairing rule P is of form R.a=S.b or of the form .o slashed..sub.R, and the number of rows in either table R or table S lies below a specified threshold value (**Hellerstein,** p55, C1:4-20; Hellerstein introduces a threshold.); pairing rule P is of form R.a=Sb with a .epsilon. K and the number of distinct values in Sb divided by the number of values in R.a lies below a specified threshold value, wherein K is a set comprising key-like columns among all columns in said database (**Hellerstein,** p52 C2:35 through p53, C1:2; Aplicant describes an avegage for use as a threshold limit.); pairing rule P is of form R.a=S.b, and one or both of R and S fails to have an index on any of its columns (**Hellerstein,** p57, C2:6-25); or pairing rule P is of form R.a=S. b with a .epsilon. K, and S.b is a system-generated key. (**Hellerstein,** p56, C1:23-27; 'System generated key' of applicant is equivalent to 'subset' of Hellerstein.)

Claim 4.

Hellerstein anticipates identifying a set of useful algebraic constraints via one or more pruning rules (**Hellerstein,** p55, C1:4-20, 'Identifying' of applicant is equivalent to 'finding associated rules' of Hellerstein.); and partitioning data into compliant data and exception data. (**Hellerstein,** p52, C2:35 through p53, C1:2; Hellerstein illustrates compliant data is +/- 2□ and exception data falls outside the +/- 2□ range)

Claim 5.

Hellerstein anticipates receiving a query (**Hellerstein,** p51, C1:1-19); modifying said query to incorporate identified constraints (**Hellerstein,** p51, C1:20-31; Modification of the query is performed by mining algorithms.); and combining results of modified query executed on data in said database and said original query executed on exception data. (**Hellerstein,** p53, C1:33-43)

Claim 6.

Hellerstein anticipates partitioning is done by incrementally maintained materialized views, partial indices, or physical partitioning of the table. (**Hellerstein,** p53, Figure 1; Hellerstein illustrates a 'materialized view' of data in the figure.)

Claim 7.

Hellerstein anticipates pruning rules comprise any of, or a combination of the following: a.sub.1 and a.sub.2 are not comparable data types; the fraction of NULL values in either a.sub.1 or a.sub.2 exceeds a specified threshold (**Hellerstein,** p55, C1:4-20); or either column a.sub.1 or a.sub.2 is not indexed.

Claim 8.

Hellerstein anticipates generating a set of pairing rules (**Hellerstein,** p52, C2:32-34; The pairs are college and grades.); and for each pairing rule P .epsilon. , systematically considering possible attribute pairs (a.sub.1, a.sub.2) and operators .sym. with which to construct candidates. (**Helerstein,** p52, C2:35 through p53, C1:43; Hellerstein illustrates the average of grades which is performed by operators '+' and '/'.)

Claim 9.

Hellerstein anticipates initializing to be an empty set (**Hellerstein,** p52, C2:31-34; If Hellerstein wants an accurate value of the result of AVG, then Hellerstein starts with an empty set.); adding a trivial pairing rule of the form .o slashed..sub.R to said set for each table R in said database (**Hellerstein,** p52, C2:31-34; The pairing rule of applicant is equivalent to 'college' and 'AVG' of Hellerstein.); and generating and adding nontrivial pairing rules to said set P based upon identifying matching columns via an inclusion dependency, wherein

a column b is considered a match for column a if: data in columns a and b are of a comparable type (**Hellerstein,** p52, C2:31-34; 'Comparable type' of applicant is equivalent to 'type 'college' of Hellerstein. 'Colleges' type and value have to match for the data of AVG to be considered.); or either (i) column a is a declared primary key and column b is a declared foreign key for the primary key, or (ii) every data value in a sample from column b has a matching value in column a.

Claim 10.

Hellerstein anticipates initializing to be an empty set (**Hellerstein,** p52, C2:31-34; If Hellerstein wants an accurate value of the result of AVG, then Hellerstein starts with an empty set.); adding a trivial pairing rule of the form .o slashed..sub.R to said set for each table R in said database (**Hellerstein,** p52, C2:31-34; The pairing rule of applicant is equivalent to 'college' and 'AVG' of Hellerstein.); and generating a set K of key-like columns from among all columns in said database with each column in set K belonging to a predefined set of types T, said set K comprising declared primary key columns, declared unique key columns, and undeclared key columns, wherein said primary keys or declared unique keys are compound keys of form a=(a.sub.1, . . . , a.sub.m) .epsilon. T.sup.m for m>1 (**Hellerstein,** p53, Figure 1, Hellerstein illustrates each column in set 'K' which is equivalent to colleges A, B, D, ..., Z; type 'T' of applicant is equivalent to type 'AVG' of Hellerstein; compound keys of applicant is equivalent to the actual summation of AVG within the school of Hellerstein.); adding nontrivial pairing rules to said set based upon identifying matching compound

columns via an inclusion dependency wherein, given a compound key (a.sub.1, . . . ,a.sub.m) .epsilon. K, a compound column b is considered a component wise match for compound column a if: data in compound columns a and b are of a comparable type (**Hellerstein,** p53, Fiure 1; 'Comparable type' of applicant is equivalent to all the 'AVG' types of Hellerstein.); or either (i) compound column a is a declared primary key and compound column b is a declared foreign key for the primary key, or (ii) every data value in a sample from compound column b has a matching value in compound column a.

Claim 16.

Hellerstein anticipates wherein said method is implemented across networks. (**Hellerstein**, p56, C2:28-32)

Claim 18.

Hellerstein anticipates constructing a sample set W.sub.C of an induced set .OMEGA..sub.C, wherein P is a join predicate between tables R and S and.OMEGA..sub.C=[r.a.sub.1.sym.r.a.sub.2:r .epsilon. R] when the pairing rule P is a trivial rule .o slashed..sub.R and .OMEGA..sub.C=[r.a.sub.1.s-ym.s.a.sub.2:r .epsilon. R, s .epsilon. S, and (r,s) satisfies P] (**Hellerstein,** p55, C2:22-44); sorting n data points in said sampled set W.sub.C in increasing order as x.sub.1.ltoreq.x.sub.2.ltoreq.. . . .ltoreq.x.sub.n, and constructing a set of disjoint intervals I.sub.1, . . . , I.sub.k such that data in sample W.sub.C falls within one of said disjoint intervals, wherein segmentation for constructing said

set of disjoint intervals is specified via a vector of indices (i(1), i(2), . . . , i(k)) and the j.sup.th interval is given by I.sub.j=[x.sub.i(j-1)+1,x.sub.i(j)] and length of Ij, denoted by Lj, is given by L.sub.j=x.sub.i(j)-x.sub.i(j-1)+1; and said segments are determined by histogramming. (**Hellerstein,** p53, C2:8-26; A user can have GPA sorted.)

Claim 20.

Hellerstein anticipates widths associated with said intervals are expanded to avoid additional sampling required to increase right end point to equal maximum value in .OMEGA..sub.C. (**Hellerstein,** p52, C2:35 through p53, C1:2; By adjusting the percentage probability, intervals can be expanded to avoid additional sampling.)

Claim 22.

Hellerstein anticipates (a) computer readable program code constructing one or more candidates of form C=(a.sub.1, a.sub.2, P, .sym.), wherein a.sub.1 and a.sub.2 are numerical attributes associated with column values of data in said database, P is a pairing rule, and .sym. is any of the following algebraic operators: +, -, .times., or / (**Hellerstein,** p55, C2:22-49; Constructing or identifying candidates among multiple databases of applicant is equivalent to 'join' of Hellerstein.); (b) computer readable program code constructing, for each candidate identified in (a), an algebraic constraint AC=(a.sub.1, a.sub.2, P, .sym.,

I.sub.1, . . . , I.sub.k) by applying any of, or a combination of the following techniques to a sample of column values: statistical histogramming, segmentation, or clustering, where I.sub.1, . . . , I.sub.k is a set of disjoint intervals and k.gtoreq.1 (**Hellerstein,** p53, C1:4 through C2:7; Hellerstein illustrates a set of disjoint intervals with clustering.), and wherein said constructed algebraic constraints are used in query optimization. (**Hellerstein,** p52, C1:34-47)

Claim 23.

Hellerstein anticipates computer readable program code identifying a set of useful algebraic constraints via heuristics comprising a set of pruning rules (**Hellerstein,** p55, C1:4-20); and computer readable program code partitioning data into compliant data and exception data. (**Hellerstein,** p52, C2:19-29)

Claim 24.

Hellerstein anticipates computer readable program code aiding in receiving a query (**Hellerstein,** p51, C1:1-19); computer readable program code modifying said query to incorporate identified constraints (**Hellerstein,** p52, C1:34-47; 'Modifying a query' of applicant is equivalent to optimized algorithms of Hellerstein.); and computer readable program code combining results of modified query executed on data in said database and said original query executed on exception data. (**Hellerstein,** p53, C1:33-43)

Claim 25.

Hellerstein anticipates (a) constructing one or more candidates of form C=(a.sub.1, a.sub.2, P, .sym.), wherein a.sub.1 and a.sub.2 are numerical attributes associated with column values of data in said database, P is a pairing rule, and .sym. is any of the following algebraic operators: +, -, .times., or / (**Hellerstein,** p55, C2:22-49; Constructing or identifying candidates among multiple databases of applicant is equivalent to 'join' of Hellerstein.); (b) constructing, for each candidate identified in (a), a fuzzy algebraic constraint AC=(a.sub.1, a.sub.2, P, .sym., I.sub.1, . . . , I.sub.k) by applying any of, or a combination of the following techniques to a sample of column values: statistical histogramming, segmentation, or clustering, where I.sub.1, . . . , I.sub.k is a set of disjoint intervals and k.gtoreq.1 (**Hellerstein,** p53, C1:4 through C2:7; Hellerstein illustrates a set of disjoint intervals with clustering.); (c) identifying a set of useful algebraic constraints via heuristics comprising a set of pruning rules (**Hellerstein,** p55, C1:4-20); (d) partitioning data into compliant data and exception data (**Hellerstein,** p52, C2:19-29); and (e) modifying said query to incorporate identified constraints, wherein an optimizer utilizes said identified constraints to identify new and efficient paths. (**Hellerstein,** p52, C1:34-47; 'Modifying a query' of applicant is equivalent to optimized algorithms of Hellerstein.)

Claim 26.

Hellerstein anticipates the step of combining results of modified query executed on data in said database and said original query executed on exception data. (**Hellerstein,** p53, C1:33-43)

Claim 27.

Hellerstein anticipates partitioning is done by incrementally maintained materialized views, partial indices, or physical partitioning of the table. (**Hellerstein,** p53, Figure 1; Hellerstein illustrates a 'materialized view' of data in the figure.)

Claim 28.

Hellerstein anticipates pairing rule P is of form R.a=S.b or of the form .o slashed..sub.R, and the number of rows in either table R or table S lies below a specified threshold value (**Hellerstein,** p55, C1:4-20; Hellerstein introduces a threshold.); pairing rule P is of form R.a=S.b with a .epsilon. K and the number of distinct values in S.b divided by the number of values in R.a lies below a specified threshold value, wherein K is a set comprising key-like columns among all columns in said database (**Hellerstein,** p52 C2:35 through p53, C1:2; Aplicant describes an avegage for use as a threshold limit.); pairing rule P is of form R.a=S.b, and one or both of R and S fails to have an index on any of its columns (**Hellerstein,** p57, C2:6-25); or pairing rule P is of form R.a=S. b with a .epsilon. K, and S.b is a system-generated key. (**Hellerstein,** p56, C1:23-27; 'System generated key' of applicant is equivalent to 'subset' of Hellerstein.)

Claim 29.

Hellerstein anticipates generating a set of pairing rules; and for each pairing rule P .epsilon. , systematically considering possible attribute pairs (a.sub.1, a.sub.2) and operators .sym. with which to construct candidates. (**Hellerstein,** p52, C2:32-34; The pairs are college and grades.)

Claim 30.

Hellerstein anticipates initializing to be an empty set (**Hellerstein,** p52, C2:31-34; If Hellerstein wants an accurate value of the result of AVG, then Hellerstein starts with an empty set.); adding a trivial pairing rule of the form .o slashed..sub.R to said set for each table R in said database (**Hellerstein,** p52, C2:31-34; The pairing rule of applicant is equivalent to 'college' and 'AVG' of Hellerstein.); and generating and adding nontrivial pairing rules to said set based upon identifying matching columns via an inclusion dependency, wherein a column b is considered a match for column a if: data in columns a and b are of a comparable type (**Hellerstein,** p52, C2:31-34; 'Comparable type' of applicant is equivalent to 'type 'college' of Hellerstein. 'Colleges' type and value have to match for the data of AVG to be considered.); or either (i) column a is a declared primary key and column b is a declared foreign key for the primary key, or (ii) every data value in a sample from column b has a matching value in column a.

Claim 31

Hellerstein anticipates initializing to be an empty set (**Hellerstein,** p52, C2:31-34; If Hellerstein wants an accurate value of the result of AVG, then Hellerstein starts with an empty set.); adding a trivial pairing rule of the form .o slashed..sub.R to said set for each table R in said database (**Hellerstein,** p52, C2:31-34; The pairing rule of applicant is equivalent to 'college' and 'AVG' of Hellerstein.); and generating a set K of key-like columns from among all columns in said database with each column in set K belonging to a predefined set of types T, said set K comprising declared primary key columns, declared unique key columns, and undeclared key columns, wherein said primary keys or declared unique keys are compound keys of form a=(a.sub.1, . . . ,a.sub.m) .epsilon. T.sup.m for m>1 (**Hellerstein,** p53, Figure 1; Hellerstein illustrates columns wit each column belongin to a predefined set (In the example 'college' is the categories of sets) and the compound keys of applicant is equivalent to the values within each category.); adding nontrivial pairing rules to said set based upon identifying matching compound columns via an inclusion dependency wherein, given a compound key (a.sub.1, . . . , a.sub.m) .epsilon. K, a compound column b is considered a component wise match for compound column a if: data in compound columns a and b are of a comparable type (**Hellerstein,** p53, Figure 1;Hellerstein illustrates comparable types of AVG under the category of school.); or either (i) compound column a is a declared primary key and compound column b is a declared foreign key for the primary key, or (ii) every data value in a sample from compound column b has a matching value in compound column a.

Claim 34.

Hellerstein anticipates (a) identifying candidates of form C=(a.sub.1, a.sub.2, P, .sym.) by finding declared or undeclared key columns and columns related to said declared and undeclared key columns via an inclusion dependency, wherein a.sub.1 and a.sub.2 are numerical attributes associated with column values of data in said database, P is a pairing rule, and .sym. is an algebraic operator (**Hellerstein,** p55, C2:22-49; Constructing or identifying candidates among multiple databases of applicant is equivalent to 'join' of Hellerstein.); (b) for each candidate in (a), identifying a sample set and constructing an algebraic constraint AC=(a.sub.1, a.sub.2, P, .sym., I.sub.1, . . . , I.sub.k) for said sample set by applying any of, or a combination of the following techniques: statistical histogramming, segmentation, or clustering techniques, wherein the sample size is selected to control the number of exception records that fail to satisfy said algebraic constraint (**Hellerstein,** p53, C1:4 through C2:7; Hellerstein illustrates a set of disjoint intervals with clustering.); (c) identifying a set of useful constraints and associated exception tables via heuristics comprising pruning rules and creating exception tables to hold said exception records (**Hellerstein,** p53, C2:27 through p54, C1:1; Hellerstein illustrates a limit to 65536 rows); and (d) during query processing, modifying queries to incorporate said identified algebraic constraints with an optimizer utilizing said identified algebraic constraints and said created exception tables to accelerate query processing. (**Hellerstein,** p53, C2:27 through p54, C1:1; Hellerstein

illustrates a upper limit to 65536 rows, or stated using algebraic terms >65536 rows.)

Claim 35.

Hellerstein anticipates (a) identifying a set of keys for one or more tables in said database (**Hellerstein,** p55, C2:22-49; Constructing or identifying candidates among multiple databases of applicant is equivalent to 'join' of Hellerstein.); (b) identifying a set of inclusion dependencies covered by said identified keys (**Hellerstein,** p53, C1:4 through C2:7; Hellerstein illustrates inclusion dependencies with a set of disjoint intervals with clustering.); (c) identifying sets of column pairs in said tables linked by an inclusion dependency (**Hellerstein,** p56, C1:4-13; Hellerstein displays sample speed depends on data values.), (d) sampling data from columns in each column pair identified in (c) (**Hellerstein,** p52, C2:19-29), and (e) using a data mining algorithm to identify significant patterns between data in said columns and utilizing said patterns to derive one or more rules, wherein query optimization is attained by modifying a query to incorporate constraints defined by said derived one or more rules. (**Hellerstein,** p52, C1:34-47; 'Modifying a query' of applicant is equivalent to optimized algorithms of Hellerstein.)

Claim 36.

Hellerstein anticipates the step of partitioning data into compliant data and exception data based upon said identified patterns and said derived one or more

rules. (**Hellerstein,** p52, C2:35 through p53, C1:2; Hellerstein illustrates compliant data is +/- 2□ and exception data falls outside the +/- 2□ range)

Claim 37.

Hellerstein anticipates said partitioning is done by incrementally maintained materialized views, partial indices, or physical partitioning of the table. (**Hellerstein,** p53, Figure 1; Hellerstein illustrates a 'materialized view' of data in the figure.)

Claim 38.

Hellerstein anticipates receiving a query (**Hellerstein,** p51, C1:1-19); modifying said query to incorporate identified constraints (**Hellerstein,** p52, C1:34-47; 'Modifying a query' of applicant is equivalent to optimized algorithms of Hellerstein.); and combining results of modified query executed on data in said database and said original query executed on exception data. (**Hellerstein,** p53, C1:33-43)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the

> prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helenstein as set forth above in view of Bumbulis (U. S. Patent Publication 20030204513, referred to as **Bumbulis**)

Claims 17 and 33.

Hellenstein fails to particularly call for wherein said across networks element comprises any of, or a combination of the following: local area network (LAN), wide area network (WAN), or the Internet.

Bumbulis teaches wherein said across networks element comprises any of, or a combination of the following: local area network (LAN), wide area network (WAN), or the Internet. (**Bumbulis,** ¶0063) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Hellenstein by having network capability as taught by Bumbulis to have across networks element comprises any of, or a combination of the following: local area network (LAN), wide area network (WAN), or the Internet.

For the purpose of using the system without the barrier of being onsite of the database to generate the information that the invention does.

Claim 32.

Hellenstein fails to particularly call for method is implemented across networks.

Bumbulis teaches method is implemented across networks. (**Bumbulis,** ¶0048) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Hellenstein by having network capability as taught by Bumbulis to have a method is implemented across networks.

For the purpose of using the invention without the requirement of being onsite for it to function.

Conclusion

5. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-U. S. Patent Publication 20030115209: Murray

-U. S. Patent Publication 20030065661: Chang

-U. S. Patent 6615222: Hornibrook

-U. S. Patent 6446060: Bergman

-U. S. Patent 5787425: Bigus

-U. S. Patent Publication 20020129021: Brown

-U. S. Patent Publication 20020026438: Rjaibi

-U. S. Patent Publication 20010037327: Haas

-U. S. Patent 5581758: Burnett

-U. S. Patent 5459860: Burnett

-U. S. Patent 4631673: Haas

-'A formula for sample sizes for population tolerance limits': Scheffe

6. Claims 1-38 are rejected.

Correspondence Information

7. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3687. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Peter Coughlan

5/23/2006

P. E.